

The background of the slide is a photograph of ancient Aztec stone ruins. In the foreground, there is a large, weathered stone structure with a conical roof. In the background, other ruins with tall, thin towers are visible, situated near a body of water. The image is partially covered by semi-transparent orange and blue vertical bars.

Issue 1

Paleolithic Azores and Its Potential
Connections - A Research Inquiry

David Lee

Since the era of Plato, an ongoing debate persists regarding the veracity of Atlantis. Questions surrounding its existence, the identity of its inhabitants, and their origins continue to captivate scholars. The enigma of how a sophisticated civilization could disappear entirely, as if engulfed by the earth itself, remains a central point of intrigue.

Author Preface

The concept of Atlantis has earned the reputation of being the world's greatest mystery story. The mere mention of the word evokes a range of emotions, including delight, excitement, anticipation, nostalgia, apathy, skepticism, and disgust, depending on the individual's perspective. Some individuals, having established a circumscribed circle of "accepted facts," choose to dismiss any information beyond their predetermined boundaries. However, for others, the world is teeming with mysteries, presenting new horizons that are inspiring, intriguing, enticing, beckoning, and occasionally bewildering. Atlantis embodies all these facets and more.

Despite the plethora of books and articles on the subject, very few have endeavored to establish a fundamental scientific basis for the existence of the lost continent. Prevailing geological opinions reject the notion that a landmass as extensive as a continent could sink to the ocean floor in "a single day and night." Anthropology asserts a continuous and gradual evolution of humanity from a primitive state, devoid of significant setbacks. Archaeology, for the most part, fails to find empirical support for a high civilization in ancient times, while historians are hesitant to entertain notions of advanced technology, political empires, or global conquest before recorded history. Faced with these challenges, one might question the audacity of writing a serious book in support of Atlantis.

In a landscape saturated with books discussing ancient relics hinting at an advanced lost civilization, most

of which touch upon Atlantis, it becomes imperative to establish a scientific theoretical foundation for its existence and delineate the geophysical causes for its subsidence. This necessitates adopting novel perspectives on the problem at hand.

The challenge of proposing a technologically advanced civilization in the Atlantic during a time when Europe appeared to be in a Stone Age state is addressed in chapters on Cultural Peculiarities and Archaeology and Atlantis. These chapters offer unique solutions, compelling orthodox archaeologists to reevaluate some highly suggestive data presented.

One may question the need for yet another book on Atlantis, pondering the relevance of delving into the past when contemporary and impending issues demand attention. The response is clear: a more profound understanding of the past could have imparted crucial lessons that might have averted many contemporary challenges. The root causes of mankind's troubles—greed, egoism, malice, depravity—remain unchanged. While one might argue that ancient civilizations faced different problems, Atlantis, as depicted in this study, grappled with advanced technological warfare, internal rebellion, scientific misuse of nature, and common sociological sins. Thus, Atlantis emerges as a valuable subject for contemporary study.

For these reasons, the presentation of robust scientific data supporting the existence of Atlantis becomes imperative in this book. The evidence presented supports the conclusion that Atlantis did exist—a large island-continent located in the North Atlantic—with a

sophisticated civilization, the establishment of an empire, and possession of technology. This stance contradicts the theory proposing Minoan Crete as Atlantis, endorsed by certain scholars. Disproving the Minoan hypothesis is essential, as its acceptance could obscure vital lessons that a genuine study of Atlantis could offer.

Table of Contents

Plato.....	7
The Tyrrhenian Sicilian Dwarf Elephant.....	11
Hypothesis on the Probable Location of Atlantis.....	15
Present Day San Miguel Azores Photos.....	20
Unveiling Prehistoric Rock Art in Caves of Terceira Island.....	22
Human Habitation Antecedent to the Azorean Archipelago.....	25
Norse Account of Strange Wonderful Land Destroyed.....	27
Rethinking Azores' Historical Discoveries.....	29
Preserving Ancient Narratives of Sea Level Changes.....	33
Folkloric Depiction and Formation of the Tiwi Islands.....	35
The Great Flood of Panama.....	37
Exploring the Existence of a Submerged Civilization Beneath the Persian Gulf.....	39
EXTRA !!! A Brief Look at Climate History.....	42

Chapter 1

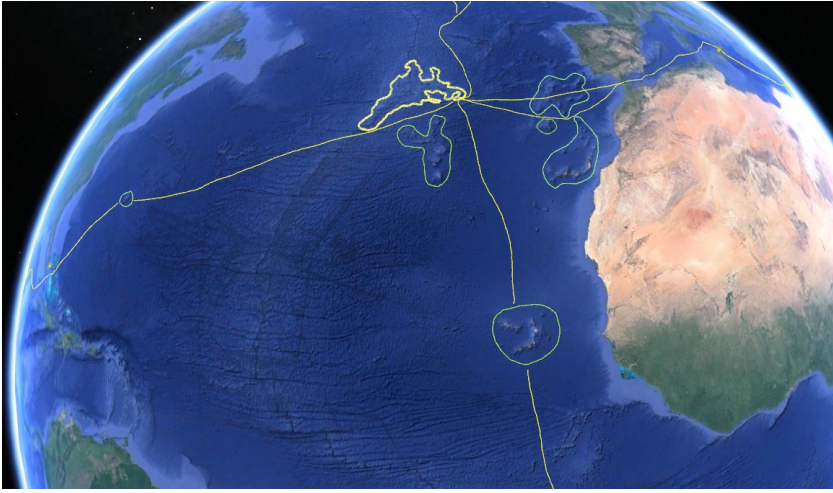
Plato

In the discourse presented within Plato's "Critias," an exploration is undertaken wherein Poseidon's division of the landmass of Atlantis into ten discrete sectors is expounded. This particular narrative infers a conceivable conjecture concerning the potential dimensions of the contemporary Azorean archipelago, a notion substantiated by the collaborative topographic cartography engendered through the partnership of the United States and the Soviet Union. Within this foundational text, Poseidon's endowment of a collection of islands, situated proximal to the "pillars of Heracles," a geographic locale often linked to the present-day Gades, denoting the territory which now constitutes modern Spain and Portugal, is articulated. This intriguing passage offers an avenue for conjectural exploration into the plausible prehistoric landmass configuration of the Azorean cluster.



In harmonizing the textual content with the visual records encapsulated within cartographic representations, a semblance emerges. These geospatial depictions intimate that the islands of Madeira, the Canaries, and the submerged elevations to the east exhibit compatibility with the delineations outlined in Plato's discourse. This synchrony between narrative and cartography propounds a captivating proposition, suggesting the vestiges of an antecedent continental expanse which encompassed the Azores.

Plato's narrative subsequently delves into elucidating the lineage of Poseidon's progeny, comprising individuals of the nomenclature Ampheres, Evaemon, Mneseus, Autochthon, Elasippus, Mestor, Azaes, and Diaprepes, along with their successive generations. This assembly of individuals is noted to have presided as inhabitants and governors over an assortment of geographically dispersed islands that were strewn across the expanses of the open ocean, as stipulated in the text. An interpretive framework emerges, postulating the potential resonance of this depiction with regions characterized by maritime isolates, encompassing the southern elevations of the Azorean archipelago, the Cape Verde islands, and extending towards the precincts of the Bahamas, exemplified by the enigmatic Bimini Road. Notably, this proposition could conceivably extend its ambit beyond these delineated geographical confines.



The historical narratives of the Aztec civilization bring to light the enigmatic figure of Quetzalcoatl, a white-bearded individual originating from the East, whose arrival was chronicled as transpiring upon a vessel guided by serpent-like entities. This textual testimony presents a basis for inference, suggesting the eminent maritime engineering and navigational prowess exhibited by the Atlantean culture during their epoch. Through the annals of history, the incorporation of serpent motifs into the designs of various maritime vessels serves as a recurrent motif, providing an intriguing insight into the influence of such iconography upon seafaring civilizations. This confluence of imagery potentially provides an explanation for the perception of serpentine creatures by the Aztecs, particularly when encountering ships anchored offshore, yielding an intriguing conjecture regarding their origin.

A parallel of interest surfaces within the toponym "Barbados," interpreted as "Bearded Men" or "barbudos" in

both Portuguese and Spanish. This etymology is thought to be an appellation bestowed upon the landmass by indigenous inhabitants upon the advent of early explorers. While coincidental, it remains a compelling point of note that a town in Portugal, bearing the same "Cuba" appellation, predates the Caribbean island of Cuba. The maritime adeptness and legacy of navigation exhibited by Portuguese and Spanish seafarers, engenders speculation that they might bear ancestral ties to the Atlantean lineage, albeit this proposition ventures into speculative realms.

Intriguingly, Plato's "Critias" imparts a seemingly overlooked assertion that "a great number of elephants were on the island," a statement that has invited divergent interpretations. Some voices suggest that this particular detail dismisses the Azores as a plausible location for Atlantis, either due to the absence of elephants in the region or due to logistical infeasibility. A counter-hypothesis emerges, focusing on the existence of the diminutive Sicilian Dwarf Elephant, which inhabited Sicily or Tyrrhenia during that epoch and became extinct around 10,000 to 12,000 years ago, coinciding with the postulated timeframe of Atlantis's demise and ensuing deluges. This interpretation posits that the reference to "elephants" in Plato's narrative could allude to these miniature pachyderms, fostering an alternative perspective on the island's geography and corroborating events.

In sum, the intersection of historical narratives, linguistic associations, and paleontological data begets a complex tapestry of conjecture and interpretation, inviting multidisciplinary inquiry into the enigmatic legacy of Atlantis.

Chapter 2

The Tyrrhenian Sicilian Dwarf Elephant



(Artist Rendition)

The Tyrrhenian Sicilian Dwarf Elephant, scientifically classified as *Elephas falconeri*, represents an intriguing facet of prehistoric Mediterranean fauna. With its extinction transpiring approximately 10,000 years ago, this distinctive elephantine species is recognized for its endemic presence across several Mediterranean islands, most notably Sicily.

The Mediterranean archipelago, while currently celebrated as a tourist haven, possesses a deeper historical significance. Predating the proliferation of modern human populations, these islands bore witness to the emergence of ancient civilizations and harbored unique ecosystems that hosted now-extinct endemic species. Among these, the Tyrrhenian Sicilian Dwarf Elephant, a prodigious example of insular dwarfism, gained prominence. Its origin within the context of prehistoric Sicily's ecological framework, as

well as its evolutionary trajectory, unfolds as an absorbing narrative.

The Sicilian Dwarf Elephant is only about 1 m at the shoulder when fully grown, once roamed around the island of Sicily.

Around 11,000 years ago, prehistoric Sicily emerged as a habitat for diverse mammalian species. Among these inhabitants, the Tyrrhenian Sicilian Dwarf Elephant - a descendant of the straight-tusked elephant (*Elephas antiquus*) - holds a position of peculiar intrigue. The ancestral origins of these dwarf elephants to the island remain speculative, although possibilities include maritime migration or traversal of temporary land connections facilitated by lowered sea levels.

The exigencies of existence on a comparatively constrained landmass like Sicily dictated an evolution marked by size diminution. The phenomenon known as the "island rule" elucidates this adaptive trend wherein isolated populations undergo size reduction due to limited food availability. As manifest in various insular locales globally, the Tyrrhenian Sicilian Dwarf Elephant's stature progressively dwindled across generations, a response to the island's constrained resource base.

The process of this "dwarfing" is intriguingly congruous with analogous instances observed elsewhere. Notably, the shrinking of hominids on Flores Island in Indonesia mirrors the trajectory of these diminutive elephants. Despite theoretical speculations regarding the temporal course of dwarfing, the evolutionary promptness

of this adaptation remains evident, underlining the imperative of rapid adjustments for survival.

A confluence of factors including resource scarcity, absence of predators, and reduced competition within insular environments contributed to the dwarf elephants' physiological changes. Their transformation to a compact form, exhibiting an estimated weight of around 100 kg - merely a fragment of their larger ancestors - embodies the efficacy of adaptation.

Inferences drawn from the Tyrrhenian Sicilian Dwarf Elephant's ecological role underscore its significant influence on the island's ecosystem. With dietary preferences potentially encompassing low-lying vegetation and grasses, these modest-sized herbivores prompted alterations in the vegetation structure. Their browsing activities, coupled with mobility patterns, may have facilitated niche creation and resource redistribution, reshaping Sicily's ecological dynamics.

While their existence persisted over hundreds of millennia, the advent of human populations signaled the decline of the Tyrrhenian Sicilian Dwarf Elephant. Interaction with humans led to fatal consequences, facilitated by the absence of innate fear due to isolation. This lack of wariness rendered them susceptible to hunting and eventual extinction within a span of decades.

The narrative of the Tyrrhenian Sicilian Dwarf Elephant is emblematic of insular evolution's intricate interplay. As a microcosm of evolutionary dynamics, it unravels the complex mechanisms governing the survival

and transformation of species within confined island habitats.

Chapter 3

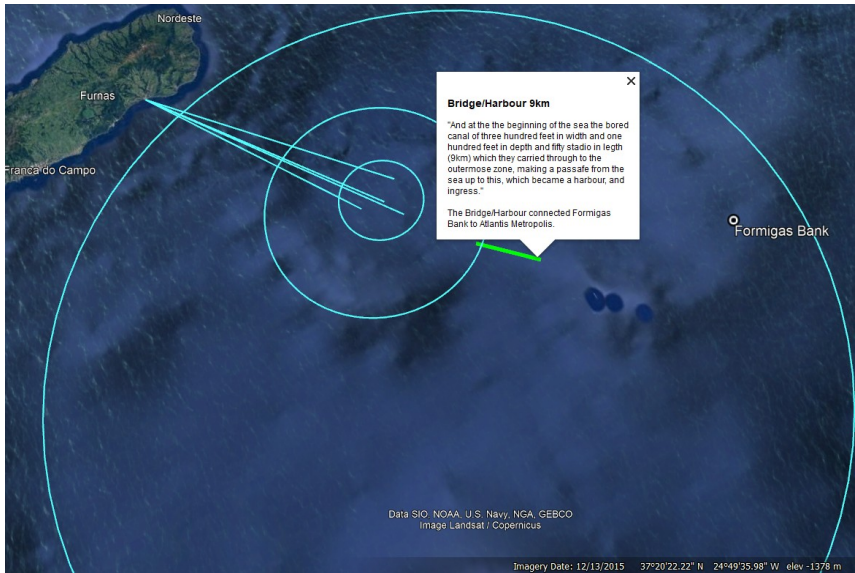
Hypothesis on the Probable Location of Atlantis

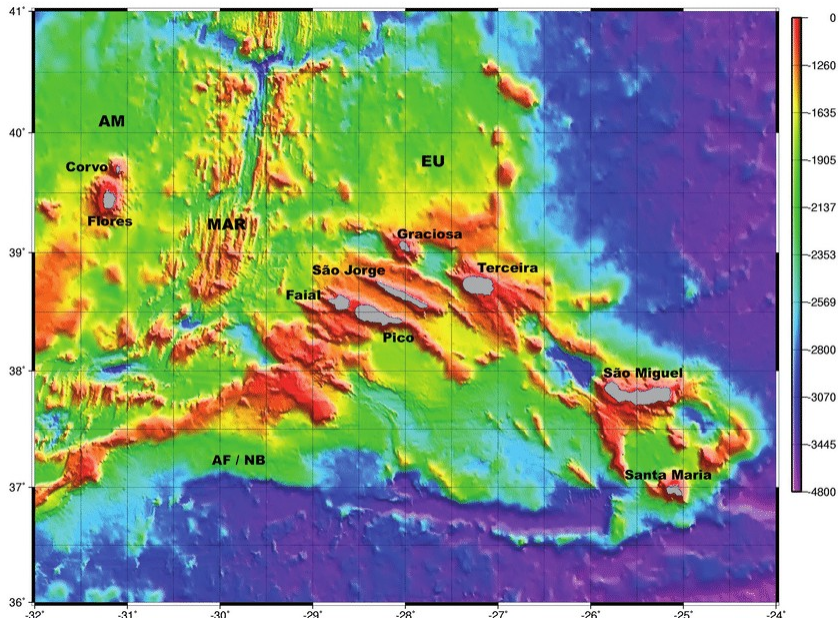
The postulation concerning the potential geographical whereabouts of the lost city of Atlantis is fundamentally grounded in a synthesis of primary source analysis, primarily drawn from the works of Plato, coupled with data stemming from the 1983 U.S.-Soviet Collaborative Geological and Geophysical Survey of the Azores region. This cooperative endeavor encompassed an exhaustive exploration of the "Atlantis Fracture Zone," executed by both nations. The accompanying cartographic representation provided herewith serves as an approximate abstraction, amalgamating surveyed topographical details with Plato's narrative depiction of the principal island constituting the fabled realm of Atlantis.



Upon conducting analysis of the geographic features attributed to the purported "main island" as delineated by Plato's account, a prospect of significance materializes upon scrutinizing the geographical characteristics of San Miguel Island. Notably, an orographic phenomenon is discernible, wherein a mountainous ridge exhibits a circumferential trajectory encompassing the southern periphery, extending in the direction of San Pedro Island. Concurrently, an analogous ridge, manifesting along the northern precinct, encircles Formigas Bank and converges at Farol das Formigas. This latter convergence subsequently interconnects with a diminutive circular mountainous ridge line, punctuated by multiple submarine elevations. Evidently, this intricate arrangement culminates in a notable aperture situated betwixt Farol das Formigas and San Pedro Island. The salient inquiry thus emerges: could this conspicuously configured locale potentially signify the plausible locale of the enigmatic Atlantis?







França, Zilda & Forjaz, Victor-Hugo & Tilling, Robert & Kuentz, David & Widom, Elisabeth & Lago San José, Marceliano. (2009). VOLCANIC HISTORY OF PICO AND FAIAL ISLANDS, AZORES. AN OVERVIEW.

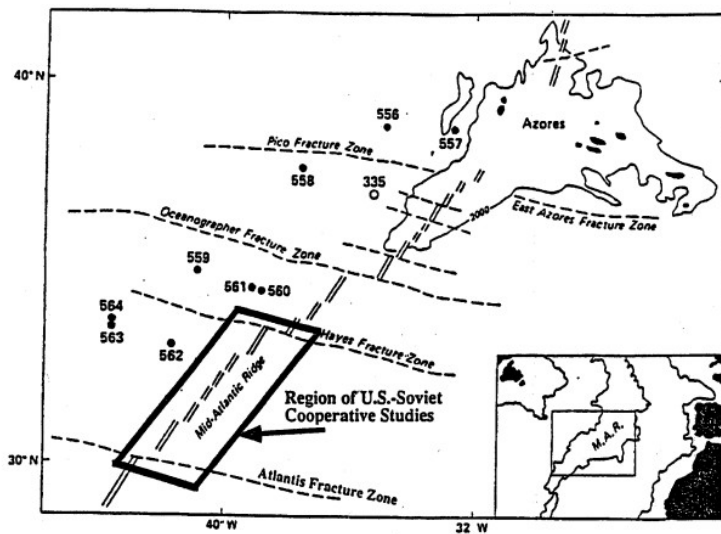


Figure 1. Generalized map of the Mid-Atlantic Ridge from the Atlantis Fracture Zone to the Azores with approximate location of R/V Petrov survey area.

(U.S.-Soviet Collaborative Geological and Geophysical Survey of the Mid-Atlantic Ridge File Report #94-7 December 30, 1993)

Chapter 4

Present Day San Miguel Azores





Chapter 5

Unveiling Prehistoric Rock Art in Caves of Terceira Island

Nuno Ribeiro, the President of the Portuguese Association of Archaeological Research (APIA), announced a significant discovery on Terceira Island, elucidating the presence of rock art within caves. This find bolsters the proposition that human habitation in the Azores predates the Portuguese colonization by an extensive span of millennia. Ribeiro divulged the findings during a presentation at the University of the Azores, asserting that the newly unearthed rock art potentially traces back to the Bronze Age. This observation is particularly noteworthy considering that the earliest documented instances of cave art in Europe harken back to the prehistoric epoch, approximately 40,000 years in the past.

Ribeiro has advanced the thesis that the architectural remnants across various Azorean islands predate Portuguese arrival, substantiated by their structural attributes and construction characteristics. The substantiating evidence includes a Roman-era epigraph, a site replete with cave art, megalithic edifices, and a profusion of structures distributed throughout the archipelago. Ribeiro posits that among these structures, some might have functioned as sanctuaries, temples, and hypogea; however, it remains imperative to appraise these claims within a chronological framework. The elucidation of these Azorean archaeological revelations has been documented within scholarly publications and showcased in international archaeological symposia, garnering

substantial acknowledgment within the global academic community.

Ribeiro's antecedent contentions contend that the timeline of human settlement within the Azores diverges from conventional historiography, a thesis founded upon recent archaeological discoveries within the archipelago. Ribeiro's investigative endeavors have purportedly unearthed a substantial corpus of ancient ruins, dating back to the 4th century BC, across the Azorean landscape. Rooted in these revelations, he hypothesizes the viability of an antecedent human presence within the Azores, predating the Portuguese colonization in the 15th century.

In a discourse with the *Portuguese American Journal*, Nuno Ribeiro expounded upon his claims and the methodological trajectory leading to his findings. His proclivity for researching the "discovery" of the Azores had long-standing roots; nevertheless, it was an excursion to Terceira and Corvo islands in the summer of 2010 that catalyzed the investigative voyage.

Reflecting on his motivation for investigating the Azores, Ribeiro elucidated, *"Obviously I had studied the legends, the various reports of the discovery of the Islands and especially, had previously studied the toponymy. I thought I had to visit Mount Brazil, because of the legends associated with the name of the place."* Subsequently, in July 2011, Ribeiro, along with Anabela Joaquinino, both affiliated with the Lisbon-based Portuguese Association of Archaeological Research (APIA), disclosed their unearthing of an assemblage of 4th-century BC Carthaginian temples on Monte Brasil, Angra do Heroísmo, Terceira Island. Their

attribution posits the dedication of these temples to the ancient deity Tanit.

According to reports, these edifices bear parallels with structures within the Mediterranean milieu, notably within Greek and Carthaginian cultural domains, where they were employed for sepulchral purposes. These venerable monuments are presumed to exceed two millennia in age. Furthermore, the duo professed their discovery of ancient rock engravings on Terceira and São Miguel islands, along with Sunni inscriptions on both São Miguel and Terceira islands, accompanied by a multitude of pre-Christian hypogea on Terceira and Corvo islands.

Analogous discoveries were reportedly documented on Santa Maria and Flores islands. Yet, Ribeiro avers, “*The investigation in the Azores can be said to have not yet begun.*” The initial data were disseminated at the SOMA Mediterranean Archaeology Congress in March 2011 at the University of Catania, Italy, as well as the 2011 SEAC Congress in Évora, Portugal. Subsequent to these revelatory insights, a research initiative presented to the Regional Government of the Azores in March 2011 awaits funding. Ribeiro concedes that amidst the supporting evidence, uncertainties abound, dwarfing certainties.

Chapter 6

Human Habitation Antecedent to the Azorean Archipelago

Archaeologists affiliated with the Portuguese Association of Archaeological Research (APIA) had conducted an investigation on Pico island in 2013, unveiling fresh archaeological findings that substantiate their conjecture regarding pre-Portuguese human habitation in the Azores archipelago spanning several millennia.

The newly unveiled evidence consists of an assorted array of protohistoric pyramidal rock formations, some towering as high as 13 meters. Notably, the Azorean archipelago was encountered devoid of human settlement by the Portuguese explorers circa 1427. The on-site archaeologists postulate that these architectural structures were fashioned by antecedent inhabitants of the island, suggesting their utilization in sacred rites and mortuary practices. Of significance, a considerable number of akin structures have been identified within the Madalena locality of Pico island.

APIA's archaeological specialists, namely Nuno Ribeiro and Anabela Joaquineto, propound that the excavation has also yielded artifacts with a potential chronology predating the Portuguese colonization of the island. Their contention gains further traction from their observation that the architectural designs appear to conform to an intentional alignment with the summer solstices, hinting at a deliberate functional intent.

Furthermore, the researchers posit that the

Madalena pyramidal edifices, known colloquially as "maroiços," are conceptually analogous to analogous protohistoric constructions encountered in Sicily, North Africa, and the Canary Islands, with established ritual significance.

Contemporary corroborative archaeological discoveries within the Azores archipelago buttress the contention of antecedent human presence on these islands. In a preceding instance, archaeologist Nuno Ribeiro disclosed the identification of rock art on Terceira island, a discovery he similarly contends dates back numerous millennia before the Portuguese incursion.

Over the past triennium, Nuno Ribeiro has advanced assertions of unearthing a diverse array of ancient archaeological remnants on alternate Azorean islands. This repertoire encompasses a Roman-era epigraph, Carthaginian sanctuaries, subterranean artistic manifestations, and megalithic constructions. Noteworthy is his assertion that these findings have garnered publication within scientific journals and presentation at international symposia, receiving laudatory reception within the global academic community.

Chapter 7

Norse Account of Strange Wonderful Land Destroyed

In the pre-Christian epoch of Europe, paganism prevailed as a diverse spectrum of religious beliefs rather than a monolithic doctrine. Paganism's kaleidoscopic nature found expression in varied myths, as witnessed among the Greeks, Germans, Celts, and others. Norse mythology, chronicled in the Eddas during Iceland's Medieval era, unfolds as a vibrant tapestry of cosmological narratives, rife with intriguing elements.

Central to the Eddas are vivid depictions of Yggdrasil, the world tree, Midgard—the human realm, the encircling serpent Jörmungandr, the ethereal realm of Asgard above Midgard, the Bifröst rainbow bridge connecting realms, and Ragnarök—the apocalyptic finale culminating in Yggdrasil's annihilation, initiating a novel cosmic cycle. Unlike the linear "End Times" of Christian theology, Ragnarök isn't an ultimate termination but denotes a cyclical ebb and flow. Rudolf Simek and Mircea Eliade illuminate this concept, asserting Ragnarök signifies an endless, cyclic progression:

The cyclical interpretation of Ragnarök is underscored by the continual renewal of the world in Norse sources. The assertion of Ragnarök signifying a linear end of history is thus unsound. Creation and destruction reside as points on a circular continuum, not opposing endpoints on a linear trajectory.

Metaphorically, Ragnarök narrates the demise of the deities governing Yggdrasil's Nine Worlds, yet its interpretation extends beyond symbolism. The Eddas recount the fate of Midgard consequent to Ragnarök:

In a reversal mirroring the primordial creation, the desolate land receded beneath the waves, sinking back into the sea's embrace. Ginnungagap, the cosmic void, reclaimed its silent, impenetrable dominion. Yet, this age of silence and decay proved transient. Ere long, the land reemerged, born anew from the ocean's depths. With Baldur's resurrection from the underworld, the rejuvenated land burgeoned with lush fertility, exceeding even its original creation.

The interpretive landscape expands further. Insight into the Norse understanding of the cycle is enriched by analysis of sediment cores, climate modeling, and genetic markers. The study presents a reinterpretation of established myths—seafaring explorers from afar, reshaping their narrative. The journey thus embarks upon an odyssey into the intricacies of sagas interwoven with land, sea, and the realms beyond.

As the veils of history lift, the riddle of how maps from the 14th century depicted the archipelago and its composition deepens. Unraveling these threads of lore and examining their woven connections to maritime exploits beckons forth collaboration with experts, archaeologists, and historians. This voyage into mythos and reality promises to reshape our perception of the enigmatic Norse saga, revealing the nuanced tapestry of a cyclical cosmos intertwined with the multifaceted human experience.

Chapter 8

Rethinking Azores' Historical Discoveries

The annals of history have long credited Portuguese sailors of the 15th century with the discovery of the Azores, a nine-island archipelago in the Atlantic Ocean located 1,368 kilometers off Portugal's coast. A century later, Gaspar Frutuoso's seminal work, *As Saudades da Terra*, proffered two distinct potential discovery dates (1427 and 1432), highlighting untouched wilderness and pristine ecosystems greeting the sailors.

Nevertheless, this conventional account is now under scholarly scrutiny, as evidenced by a recent study published in the *Proceedings of the National Academy of Sciences of the United States of America*. Santiago Giralt, a researcher affiliated with Geosciences Barcelona and the Spanish National Research Council, spearheads a team seeking to reevaluate the established narrative.

Employing an intricate ensemble of lake and landscape proxy indicators, the research endeavors to distill a more accurate historical perspective. Pollen indicators, for instance, unveil a vivid picture of the islands' pre-human state, characterized by dense forests. This narrative trajectory takes an intriguing turn circa 700 CE, evidenced by an augmentation of sterols and coprostanols—organic compounds that serve as biomarkers for livestock and human fecal matter. A convergence of diverse markers—ranging from pollen to plant fossils, charcoal remnants, and polycyclic aromatic hydrocarbons—echoes a narrative of accelerated fire incidents, deforestation, and soil erosion spanning the years between 700 and 1070.

The temporal panorama further unfolds around 1100, marked by the appearance of pollen grains from non-native plants, *Secale cereale* (rye) and *Plantago major* (broadleaf plantain), emblematic of agricultural practices. These indicators point towards human intervention around 700 years prior to Portuguese arrival, casting doubt upon the pristine nature of the islands. The narrative rebuts the prevailing account, unveiling a landscape deeply impacted by centuries of human influence.

Supplementing the sedimentary analyses, the team extrapolated climate model simulations spanning 850 to 1850. These models unveiled warmer conditions and enhanced northeast winds in the North Atlantic, rendering the sea passage from Lisbon to the Azores unfeasible for explorers during the suspected early settlement era. The arrival of the Portuguese in the 15th century coincided with changes in wind patterns, technological advancements, cartography, and the geopolitical milieu of the early Age of Exploration, culminating in a favorable atmosphere for maritime exploration.

Genetic evidence contributes a parallel thread to this intricate narrative, as a Portuguese-British collaborative study from 2014 sequenced DNA from house mice residing in the Azores, Canary, and Madeira archipelagoes. The presence of northern European genes within the Azores mouse population infers a potential link to Viking presence—a hitherto unexplored avenue of exploration.

Søren Sindbæk, an archaeologist at Aarhus University, Denmark, underscores the plausibility of these findings, illuminating the enduring maritime legacy of the Vikings. He envisions a scenario where the Azores

settlement, if validated, would underscore the remarkable seamanship skills of the Vikings, though he remains circumspect and considers other maritime groups, such as Irish monks, as viable contenders.

The study reverberates with tantalizing enigmas, spurring further inquiries into the genesis of historical knowledge. Numerous medieval maps and an atlas of the 14th century featuring the Azores puzzle scholars—how did these cartographers acquire this information? The question of Viking graveyards or settlements on the islands remains unanswered, as do queries about potential interactions between Portuguese explorers and any previous inhabitants.

Giralt emphasizes the team's collaborative aspirations with archaeologists and historians, underscoring the iterative nature of historical exploration. The study thus navigates the waters of historical discovery, charting a course towards a more nuanced understanding of the Azores' enigmatic past.

Chapter 9

Preserving Ancient Narratives of Sea Level Changes

Port Phillip Bay Evidently, diverse indigenous tribes have passed down narratives through generations, recounting an era when Port Phillip Bay, now a prominent marine expanse, was predominantly terra firma. A 1859 state government report chronicled recollections of tribal descendants, characterizing the bay as a "kangaroo ground," resonant with tales of abundant kangaroo and opossum hunting. Scrutinizing these chronicles, researchers deduced that these stories enshrine times when sea levels exceeded present heights by approximately 30 feet, likely dating these narratives back to an antiquity spanning 7,800 to 9,350 years.

Kangaroo Island Within the narrative framework of the Ngarrindjeri people, the figure of Ngurunderi emerges as a central mythological entity. As per their oral tradition, Ngurunderi pursued his wives, compelling them to seek sanctuary on Kangaroo Island, traversing much of the route on foot. A climactic juncture in the tale depicts Ngurunderi raising the waters in anger, transmuting his wives into rock formations dotting the expanse between the island and the mainland. Assuming an authentic geological basis, this tale delineates epochs when sea levels were notably lower, perhaps by 100 feet, situating the origin of this story around 9,800 to 10,650 years ago.

Tiwi Islands Embedded within Tiwi lore is the enigmatic narrative of the genesis of Bathurst and Melville islands, nestled along Australia's northern fringes. An elderly

woman's mythical journey between the islands, trailed by a watery surge, constitutes the crux of this tale. Intriguingly, this story unfolds as an emblematic account of landmass establishment succeeded by encroaching inundation—an ecological testament indicative of times between 8,200 and 9,650 years ago.

Rottnest, Carnac and Garden Islands Pioneering European settlers documented indigenous accounts pertaining to these islands, still visible from the shores of Perth and Fremantle. According to these narratives, these islands once bridged the mainland, sheltered by an arboreal expanse. Accounts elaborate a cataclysmic blaze engulfing the trees, resulting in a seismic rupture, and the tumultuous entry of the sea, severing the islands from the mainland. Examining the underwater topography of the region, researchers ascribe an epoch ranging from 7,500 to 8,900 years ago to this tale.

Fitzroy Island Indigenous inhabitants residing along Australia's northeastern coastal fringes have preserved tales envisioning an era when the shoreline extended to converge with the Great Barrier Reef. These stories reference a river converging with the sea at the current site of Fitzroy Island. A considerable spatial divergence between the modern shoreline and the reef serves as an indicator of an era when sea levels diminished significantly, by more than 200 feet. This intricate tale traces its origins as far back as 12,600 years ago.

Spencer Gulf Through the narrative legacy of the Narrangga people, Spencer Gulf unveils its historical visage as a floodplain adorned with freshwater lagoons. Depending on specific geographic references within these stories, the chronicles

potentially span an interval ranging between 9,550 and 12,450 years, providing an intriguing glimpse into the historical hydrography of this inlet contiguous to Adelaide.

Chapter 10

Folkloric Depiction and Formation of the Tiwi Islands

Ancient folklore has woven a narrative attributing the origin of the principal Tiwi Islands, Bathurst and Melville, to the mythical figure of Mudungkala—an elderly blind woman. Rooted within the Palaneri, or the "dreaming" phase, this folklore recounts Mudungkala's emergence from the Earth's southeast region on Melville Island. In a distinctive mode of progression, she embarked on a northward journey, accompanied by her three progeny.

During her sojourn, the terrain underwent transformation as fresh water surfaced in her wake, consequently giving rise to tidal dynamics and forging the Clarence and Dundas Straits—geographical features that presently demarcate the islands from the mainland of Australia. In her circumnavigation of the landmass, Mudungkala discerned its scale to be excessive, resulting in her formation of the Apsley Strait, which effectively cleaved the land into two segments. Subsequently, she adorned the previously barren islands with lush vegetation and various fauna, enabling sustenance for her descendants. Upon accomplishing her creative endeavor, she vanished, relinquishing any hints about her destination.

Notably, this rich narrative finds a parallel with the evolutionary history of the Tiwi Islands. In a scientific context, this tale can be interpreted as an allegory for landmass establishment followed by ensuing inundation—an ancient testimonial of sea level fluctuations. The Tiwi Islands, once contiguous with continental Australia,

underwent detachment due to the rapid ascent of sea levels, ultimately isolating the islands from both the mainland and each other. Intriguingly, scholarly calculations point to the inundation event transpiring between **8,200 and 9,650 years ago**.

The geographical detachment of the Tiwi Islands from mainland Australia was instrumental in the evolution of a distinct cultural tapestry among the Tiwi people over millennia. The moniker "Tiwi," signifying "one people," encapsulates their shared language. While a single linguistic foundation prevails, divergences in linguistic iterations might span three to four variations. With approximately 90 percent of the island's population, amounting to 3,000 individuals, identifying as Indigenous Australians, the Tiwi culture thrives in a unique nexus. Milikapti emerges as the most densely populated locale, providing habitation for approximately 450 residents, emblematic of the island's human fabric.

Chapter 11

The Great Flood of Panama

The Holocene Epoch's Impact on Human Development and Glacial Fluctuations

In the wake of the most recent glacial event, which culminated in the last Ice Age approximately 12,000 years ago, the Holocene Epoch unfolded, presenting an era of noteworthy climatic warmth and geological stability. This prolonged period has significantly facilitated profound agricultural and cultural advancements among human populations. This stands in stark contrast to the preceding geological span of two million years, characterized by substantially lower global temperatures, leading to extensive ice sheet formation that enveloped significant expanses of North America and Europe with ice layers measuring several kilometers in depth. This expansive ice coverage effectively sequestered a substantial portion of the Earth's water, inducing a notable reduction in global sea levels of over 100 meters. This dynamic alteration exerted a transformative influence on terrestrial topography.

The progressive abatement of ice sheets commenced approximately 16,000 years ago, instigating a rapid escalation in sea levels, a pace comparable, and sometimes surpassing, the contemporary sea level elevations attributed to anthropogenic activities, particularly the combustion of fossil fuels. This surge in sea levels persisted until approximately 8,000 years ago when climatic conditions achieved a measure of equilibrium. This extended phase of glacial recession and resultant sea level elevation produced significant consequences on global geospatial configurations. It remains a subject of substantial scientific

inquiry, elucidating the intricate interplay between glacial retreat and its implications for paleoclimatology, geomorphology, and environmental dynamics.

Chapter 12

Exploring the Existence of a Submerged Civilization Beneath the Persian Gulf

The existence of a potentially submerged civilization beneath the waters of the Persian Gulf has been proposed based on a comprehensive review of scientific research. This submerged landmass, believed to have existed some 75,000 to 100,000 years ago, likely served as a habitat for early human populations migrating out of Africa. The theoretical dimensions of this landmass, comparable to the expanse of Great Britain, gradually diminished as rising sea levels inundated the region. Approximately 8,000 years ago, this landmass is postulated to have been completely submerged by the encroaching Indian Ocean.

Published in the December edition of *Current Anthropology*, the study presents substantial implications for understanding human history, particularly the timeline of human migration beyond Africa. While the timeline of human exodus from Africa has been a topic of scholarly debate, the range spans from 125,000 years ago to 60,000 years ago. Notably, this research, led by Jeffrey Rose, an archaeologist from the University of Birmingham, challenges the accepted paradigm of the more recent date.

The hypothesis offered by Rose has stimulated discourse within the scientific community. Commenting on the theory, Robert Carter from Oxford Brookes University acknowledged its audacity and innovative approach. He suggested that although it is yet to be proven, further research initiatives are poised to investigate and validate the theory's assertions.

Viktor Cerny of the Archaeogenetics Laboratory at the Institute of Archaeology in Prague expressed support for Rose's theory, regarding it as excellent, while emphasizing the necessity for additional research to corroborate its claims.

The submerged region, dubbed the "Gulf Oasis," is envisaged as a shallow inland basin that extended from approximately 75,000 years ago until 8,000 years ago. This territory occupied the southern extent of the Fertile Crescent, an area known for its historical significance. Fueled by fresh water from the Tigris, Euphrates, Karun, and Wadi Baton Rivers, as well as upwelling springs, the Gulf Oasis served as an ideal haven amid the adjacent arid expanses. The era of the last ice age, characterized by heightened aridity, witnessed the maximal extent of this basin.

Archaeological evidence emerging in recent years aligns with this hypothesis. Substantial human settlements along the Gulf's shores, dating back approximately 7,500 years, have been unearthed. These settlements boasted intricate features such as well-constructed stone residences, long-distance trade networks, elaborately adorned pottery, domesticated animals, and even one of the world's oldest known boats.

Jeffrey Rose posits that these settlements represent a culmination of precursor populations that existed beneath the Gulf's waters. Notably, these advanced communities emerged concurrently with the flooding of the Persian Gulf basin around 8,000 years ago. It is suggested that these settlers might have originated from the heart of the Gulf,

compelled to migrate due to rising sea levels submerging their once-productive homeland.

To substantiate the existence of this submerged civilization, researchers would require robust evidence such as submerged stone tools or potentially human-built structures from the Neolithic era. The discovery of such artifacts submerged under the Gulf's waters would provide concrete validation.

In conclusion, the prospect of a submerged civilization beneath the Persian Gulf, though provocative, offers a fresh perspective on early human history and migration patterns. This theory calls for meticulous investigation and excavation, underlining the need for empirical evidence to ascertain the validity of its claims. The intriguing possibility of an ancient civilization hidden beneath the waves resonates with the rich tapestry of human cultural evolution.

Chapter 13

EXTRA !!! A Brief Look at Climate History

Last Glacial Maximum and Climatic Variability: The Last Glacial Maximum (LGM), an epoch approximately 20,000 years ago, represents a significant geological period characterized by extensive glaciation across a substantial portion of the Earth's surface. During this phase, the mean global temperature is postulated to have been notably colder, potentially exhibiting a deviation of up to 10 degrees Celsius from present-day temperatures. The Earth has exhibited a recurrent pattern of alternating warming and cooling episodes throughout its geological timeline. Presently, the planet is situated within an interglacial epoch, spanning approximately 15,000 years, marked by a sustained warming trend.

Milankovitch Effect and Orbital Forcing: The Milankovitch Effect delineates a theoretical framework elucidating the influence of gradual transformations in the Earth's orbital parameters on the modulation of solar radiation distribution across the annual cycle. Alterations in the Earth's orbital configuration precipitate variations in the magnitude of incoming solar radiation experienced by the northern hemisphere, contingent upon the axial tilt of the Earth. When the northern hemisphere encounters diminished solar irradiance, a consequential decline in surface temperature emerges, engendering a cascade of global cooling phenomena.

Ice-Albedo Feedback Mechanism: The Ice-Albedo Effect manifests as a thermodynamic mechanism whereby the Earth's surface temperature undergoes diminution due

to the reflective properties of ice, which serves to attenuate the influx of incident solar radiation. This iterative process perpetuates as the ice-coated terrain persistently reflects solar energy, thereby engendering a progressive reduction in the planetary temperature. Consequently, the propagation of this feedback loop fosters the proliferation of expansive ice sheets that enshroud substantial terrestrial expanses during periods of glaciation.

Paleoclimatic Fluctuations in Europe (22,000 - 14,000 B.P.): This study delves into the climatic and environmental dynamics experienced by human populations in central Europe between 22,000 and 14,000 years before present (B.P.). Notably, this interval coincides with profound shifts in climate and habitat conditions. The period encompasses the terminal stage of the last major ice sheet advancement, a phase marked by the most rigorous ice-age climatic conditions within the Pleistocene epoch. By 18,000 B.P., pronounced aridity and intense coldness prevailed, rendering substantial portions of the region inhospitable for human habitation. Nonetheless, the persistence of human presence amidst such adversities is an intriguing aspect of this analysis.

Last Glacial Maximum and Climate Variability in Europe: The chronicle of the Last Glacial Maximum (LGM) in Europe, occurring approximately 22,000 to 14,000 years B.P., reveals a considerable thermal divergence from the contemporary climate regime. Annual mid-latitude surface temperatures were estimated to be about 10 degrees Celsius cooler than present-day values, with winter temperatures exhibiting a remarkable decline of 15 to 20 degrees below contemporary benchmarks.

Noteworthy amplifications in global surface wind velocities by 20-50% or more were witnessed. An associated consequence of this climatic modulation was a substantial 50% reduction in poleward-bound precipitation. This orchestration of climatic forces was conducive to the transformation of vast stretches of western and central Europe into polar desert landscapes. The initiation of significant deglaciation processes was delayed until the latter part of this interval, around 13,000 to 14,000 years B.P.

The Holocene Epoch and Glacial-Led Changes:

Transitioning to the Holocene epoch, spanning 25,000 to 10,000 years B.P., this phase witnessed the amelioration of glacial climates that had previously held the Earth in a cold grip. Canada remained entombed beneath several kilometers of ice, obliterating any semblance of its modern landscape. Meanwhile, Europe remained devoid of its present-day forested expanse. A configuration arose where Southeast Asian landmasses amalgamated, reflecting a cohesive landmass. Remarkably, the present-day epoch emerges as the most recent in a sequence of periodic warm phases interspersed within the geological timeline.

The Younger Dryas Event and Abrupt Climate

Shifts: Amidst the deglaciation of the North Atlantic region, a profound climatic perturbation, referred to as the Younger Dryas event, unfolded. The nexus of this event was rooted in the rapid release of freshwater previously entrapped behind North American ice masses into the Atlantic Ocean. This phenomenon led to transient but significant cooling, yielding a return to glacial-like conditions during the broader period of deglaciation. This

climatic vacillation, in turn, engendered substantial ecological shifts in Northern Europe, eliciting transitions between forested biomes and herbaceous-dominated landscapes. This event carries substantial implications, challenging erstwhile conceptions of gradual climatic transitions, highlighting the capacity for abrupt and transformative environmental shifts.

Climate Dynamics and Early Human Migration: The interplay between climate and early human migration unfolds as a narrative woven intricately within the fabric of Earth's history. The emergence of *Homo sapiens*, supplanting prior species such as Neanderthals, unfolded over a vast temporal expanse spanning 350,000 to 35,000 years B.P. The trend toward migration driven by resource availability and depletion is discernible, particularly as these early humans pursued sustenance aligned with the migratory patterns of large game species. Limited by nascent agricultural techniques, these migratory movements were regulated by climate-induced constraints on cultivable lands.

Peopling of the Americas and Beringia: The advent of the Americas as a habitation ground coincided with the submersion of the Bering Strait, formerly a land bridge known as Beringia, around 12,000 years ago. During the height of glaciations, the glacial reservoirs in Europe, Greenland, and North America were substantial, driving sea levels to a diminution of at least 280 feet below present-day standards. This geological transformation severed the connection between Asia and North America, thereby initiating the human colonization of the Americas within a span of approximately 1,000 years.

Climatic Predisposition and Early Human

Advancements: The trajectory of human development and civilization was inextricably tied to climatic patterns. Over the past 15,000 years, the Earth underwent a significant global warming trend of 4-5 degrees Celsius, culminating in the ongoing interglacial period known as the Holocene. The Milankovitch effect, stemming from alterations in Earth's orbital parameters, played a pivotal role in dictating these fluctuations. Such climatic fluctuations augmented cultivable land areas and contributed to the development of specialized human roles, societies, and the rise of complex civilizations, thereby defining the course of human history on a geological timescale.

Scientific Perspective on Glacial and Geological Phenomena in the Pacific Northwest

The Pacific Northwest region has witnessed significant geological transformations driven by glacial activity during the recent ice age. The Fraser Glaciation, spanning from approximately 30,000 to 11,000 years before the present, profoundly impacted the landscape. This glaciation commenced with the expansion of alpine valley glaciers, peaking approximately 20,000 years ago. Around 18,000 years ago, a continental glacier emanated from Canada into the North Cascades. The dominant ice sheet, referred to as the Cordilleran ice sheet, extended through key south-trending valleys and lowlands across the Canada-U.S. border. This expansive ice mass was characterized by multiple lobes demarcated by highland features and mountain ranges. The southwesternmost projection of the Cordilleran ice sheet, known as the Puget lobe, reached into

the Puget lowland and southeastern Vancouver Island around 18,000 years before present (B.P.). Advancing southward, it reached the western Strait of Juan de Fuca by approximately 17,000 years B.P. and the Seattle region around 15,000 years B.P. The ice sheet extended as far as Olympia before retreating northward past Seattle by 13,650 years B.P.

Approximately 15,000 years ago, the Cordilleran ice sheet achieved a thickness exceeding one mile, enveloping all but the highest elevations. The culmination of this glaciation profoundly impacted the northeastern North Cascade Range, with the Puget lobe making its final southward movement into the Puget Lowland around 15,000 years ago. The resultant depositional and erosional landforms left an enduring imprint on the regional terrain. The Cordilleran ice sheet's expansion led to the accumulation of substantial sediment on a pro-glacial outwash plain, known as the "great lowland fill," stretching from the Olympic Mountains to the Cascade Range. The ice sheet's overrunning modified the topography, leading to the excavation of deep linear troughs currently occupied by large lakes and the marine waters of Puget Sound. This extensive trough carving, with depths up to 1,200 feet, represented a significant landscape transformation. Over millennia, glacial meltwater, totaling over 250 cubic miles of sediment, flowed from beneath the glacier, further shaping the landscape and giving rise to features like Admiralty Inlet, Hood Canal, and Possession Sound.

The Columbia Plateau, encompassing substantial portions of northeast Oregon, southeast Washington, and extending into Idaho's Coeur d'Alene area, showcases a distinct

geological history. Notably, this plateau encompasses the Blue Mountains, Clearwater Mountains, and related foothills, which trace their origins to lava flows that occurred millions or thousands of years ago. The plateau's formation is intricately linked to a series of lava flows, spanning back 17 million years to the middle of the Miocene era. Noteworthy is the influence of post-ice age events, particularly the cataclysmic drainage of enormous lakes in Montana, leading to colossal floods that eroded basaltic formations. The resultant canyons, notably those traversed by the Snake and Columbia Rivers, exhibit heights reaching up to 3,000 feet. Remnants of the floods' impact persist in the form of gravel deposits and residual channels.

Furthermore, sediment basins are prevalent across Eastern Washington and Northeastern Oregon due to the combined effects of glacial retreat and the aforementioned catastrophic floods. The region's biodiversity is punctuated by various species, including the painted turtle, as well as distinctive megafauna such as a two-horned, ox-sized rhinoceros species, which existed during this period.

In summation, the Pacific Northwest's geological evolution, shaped by the Fraser Glaciation and subsequent processes, has yielded a dynamic landscape characterized by profound ice sheet interactions, monumental floods, and persistent geological legacies.

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